- Specification

Items		Inner side	Outer side
Front driveshaft	Joint type	LSJ #104	BJ#104C
	Max. permissible angle	23°	45°
Rear driveshaft	Joint type	CJ#79	CJ#79
	Max. permissible angle	23°	
Rear differential	Oil type	Hypoid gear oil API GL-5, SAE 75W/85 (SK HCT-5 GEAR OIL 75W/85 EQUIVALENT)	
	OIL capacity	0.70 ± 0.05 L	
	Gear type	Hypoid	
	Diff ratio	3.091	
	Hypoid gear backlash	0.07 - 0.15 mm (0.0028 - 0.0059 in.)	
	Diff gear backlash	0.01 - 0.06 mm (0 - 0.0023 in.)	

Tightening torque

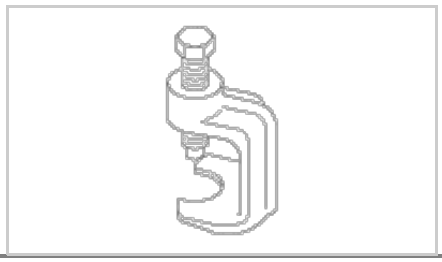
Items		N.m	kgf.m	lb-ft
Front	Tire wheel hub nut	88.3 - 107.9	9.0 - 11.0	65.1 - 79.6
	Driveshaft caulking nut	294.2 - 313.8	30.0 - 32.0	217.0 - 231.5
	Strut assembly lower mounting bolt	137.2 - 156.9	14.0 - 16.0	101.2 - 115.7
	Brake caliper mounting bolt	78.4 - 98.0	8.0 - 10.0	57.8 - 72.3
	Wheel speed sensor mounting bolt	6.9 - 10.8	0.7 - 1.1	5.1 - 8.0
	Brake disc mounting screw	4.9 - 5.9	0.5 - 0.6	3.6 - 4.3
	Hub assembly mounting bolt	78.4 - 98.0	8.0 - 10.0	57.8 - 72.3
	Upper roll rod bracket bolt	(A) 107.9 - 125.5	11.0 - 13.0	79.6 - 94.0
		(B) 49.0 - 63.7	5.0 - 6.5	36.2 - 47.0
	Lower arm ball joint mounting bolt	98.1 - 117.7	10.0 - 12.0	72.3 - 86.8
	Tie rod end ball joint mounting nut	34.3 - 44.1	3.5 - 4.5	25.3 - 32.5
Rear	Tire wheel hub nut	88.3 - 107.9	9.0 - 11.0	65.1 - 79.6
	Driveshaft caulking nut	294.2 - 313.8	30.0 - 32.0	217.0 - 231.5
	Shock absorber lower mounting nut	137.2 - 156.9	14.0 - 16.0	101.2 - 115.7
	Brake caliper mounting bolt	49.0 - 58.8	5.0 - 6.0	36.2 - 43.4
	Wheel speed sensor mounting bolt	6.9 - 10.8	0.7 - 1.1	5.1 - 8.0
	Brake disc mounting screw	4.9 - 5.9	0.5 - 0.6	3.6 - 4.3
	Hub assembly mounting bolt	78.5 - 88.3	8.0 - 9.0	57.9 - 65.1
	Upper arm mounting bolt	2WD : 137.2 - 156.9	14.0 - 16.0	101.2 - 115.7
		4WD : 98.1 - 117.7	10.0 - 12.0	72.3 - 86.8
	Lower arm mounting bolt	137.2 - 156.9	14.0 - 16.0	101.2 - 115.7
	Assist arm ball joint mounting nut	137.2 - 156.9	14.0 - 16.0	101.2 - 115.7
	Trailing arm mounting bolt	34.3 - 53.9	3.5 - 5.5	25.3 - 39.7
propeller shaft	Front propeller shaft mounting bolt	49.0 - 68.6	5.0 - 7.0	36.2 - 50.6
	Propeller shaft center bearing bracket mounting bolt	49.0 - 68.6	5.0 - 7.0	36.2 - 50.6
	Rear propeller shaft mounting bolt	49.0 - 68.6	5.0 - 7.0	36.2 - 50.6

Rear Differential	Rear differential mounting bolt	68.6 - 88.3	7.0 - 9.0	50.6 - 65.1
	Differential cover mounting bolt	39.2 - 49.0	4.0 - 5.0	28.9 - 36.2
	Rear differential drain plug	49.0 - 68.6	5.0 - 7.0	36.2 - 50.6
	Rear differential filler plug	39.2 - 58.8	4.0 - 6.0	28.9 - 43.3

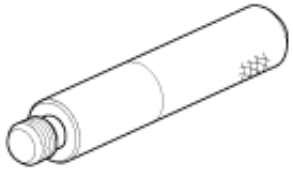
- Lubricants

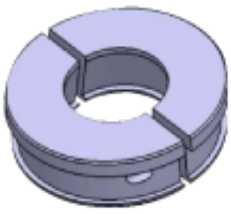
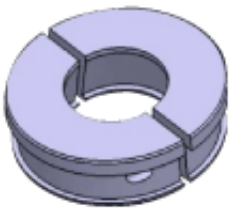
Items			Lubricants	Quantity	Remarks
Front driveshaft	BJ#104C	Lambda 3.8 GDI	RBA	125 ± 10/0g	-
	LSJ#104	Lambda 3.8 GDI	SH06-VX21	250 ± 10/0g	TPE boot
				250 ± 10/0g	CR boot
Rear driveshaft	CJ79		GRB006	60 ± 10/0g	-
	CJ79		GRB006	60 ± 10/0g	-

- Special Service Tools

Tool(Number and Name)	Illustration	Use
09495-3K000 Band installer	Click to see large image...	Installation of ear type boot band.
09568-2J100 Ball joint puller		Remove the ball joint.
09568-4R100 Lower arm ball joint remover		Removal of the lower arm ball joint.

	Click to see large image...	
09530-3T340 Differential assembly warking stand	Click to see large image...	Removal & Installation of the differential assembly warking stand.
09530-3T350 Differential assembly warking stand (bar)		Removal & Installation of the differential assembly warking stand.
09530-3T360 Differential assembly warking stand (guide)	Click to see large image...	Removal & Installation of the differential assembly warking stand.

09530-2W400 Pinion drive shaft lock installer	Click to see large image...	Removal of the pinion drive shaft lock nut.
09430-4G200 Pinion drive shaft lock holder		Removal of the pinion drive shaft lock nut.
09231-H1100 Bar		Use with 09530-2W700, 09530-2W100, 09430-4G500, 09430-4G700.
09530-2W610 Differential gear body		Pinion height measuring gauge.
09430-4G300		Pinion height measuring gauge.

Pinion gear body		
09430-4G500 Bearing outer race installer		Installation of the pinion bearing outer race. (Use with 09231-H1100)
09430-4G700 Bearing outer race installer		Installation of the drive pinion bearing outer race. (Use with 09231-H1100)
09430-4G600 Bearing installer		Installation of the differential carrier assembly inner bearing.
09452-2E000 Bearing removal body		Used for removing the taper roller bearing. Used with the taper roller bearing remover.
09430-4G100 Taper roller bearing remover		Removal of the pinion drive inner beraring. Used with the bearing remover body (09452-2E000)
09430-4G400 Taper roller bearing remover		Removal of the differential carrier assembly inner bearing. Used with the bearing remover body (09452-2E000)

- Troubleshooting

Trouble Symptom	Probable cause	Remedy
Vehicle pulls to one side	Scoring of driveshaft ball joint	Replace
	Wear, rattle or scoring of wheel bearing	Replace
	Defective front suspension and steering	Adjustment or Replace
Vibration	Wear, damage or bending of driveshaft	Replace
	Driveshaft rattle and hub serration	Replace
	Wear, rattle or scratching of wheel bearing	Replace
Shimmy	Defective wheel balance	Adjustment or Replace
	Defective front suspension and steering	Adjustment or Replace
Excessive noise	Wear, damage or bending of driveshaft	Replace
	Rattle of driveshaft and worn hub splines	Replace
	Wear, rattle or scoring of wheel bearing	Replace
	Loose hub nut	Adjustment or Replace
	Defective front suspension and steering	Adjustment or Replace

- Components

1. Knuckle
2. Dust cover
3. Hub assembly
4. Brake disc

- Removal

⚠ CAUTION

- Be careful not to damage the parts located under the vehicle (floor under cover, fuel filter, fuel tank and canister) when raising the vehicle using the lift.
  (Refer to General Information - "Lift and Support Points")

1. Loosen the wheel nuts slightly.
   Raise the vehicle, and make sure it is securely supported.
2. Remove the front wheel and tire (A) from the front hub.

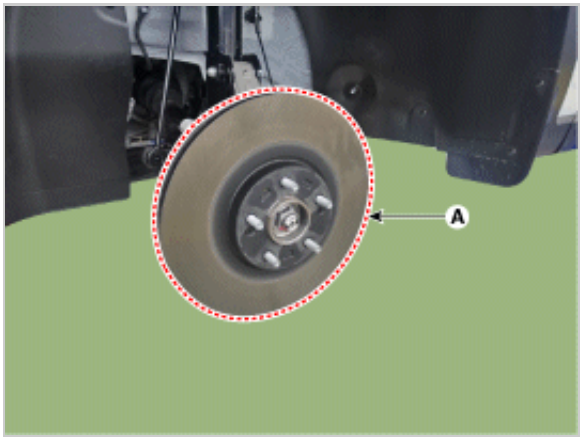
Tightening torque :
107.9 - 127.5 N.m (11.0 - 13.0 kgf.m, 79.6 - 94.0 lb-ft)

NOTICE

- Be careful not to damage the hub bolts when removing the front wheel and tire (A).

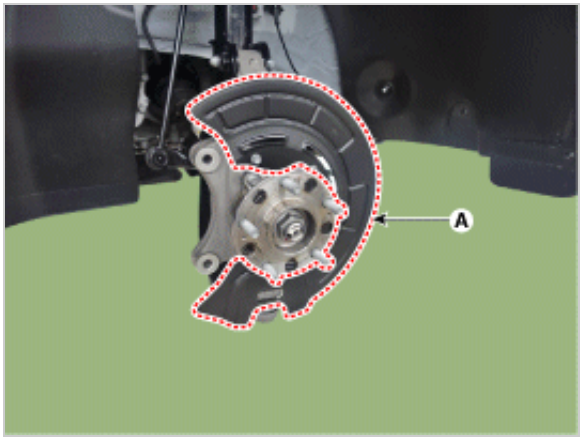
3. Remove the front brake caliper.
   (Refer to Brake System - "Front Disc Brake")
4. Loosen the screw and then remove the front disc (A).

Tightening torque :
4.9 - 5.9 N.m (0.5 - 0.6 kgf.m, 3.6 - 4.3 lb-ft)



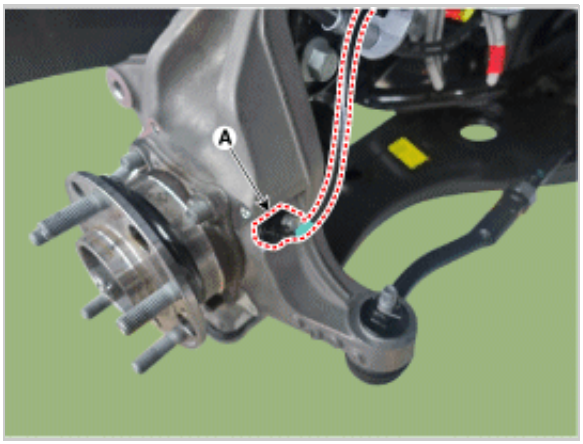
5. Remove the dust cover (A).

Tightening torque :
3.9 - 5.9 N.m (0.4 - 0.6 kgf.m, 2.9 - 4.3 lb-ft)



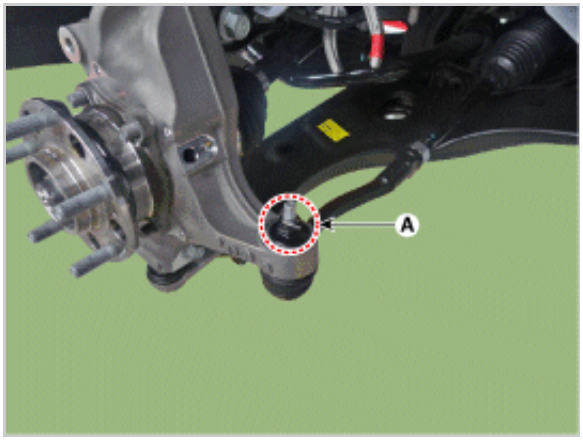
6. Loosen the bolt and then remove the wheel speed sensor (A).

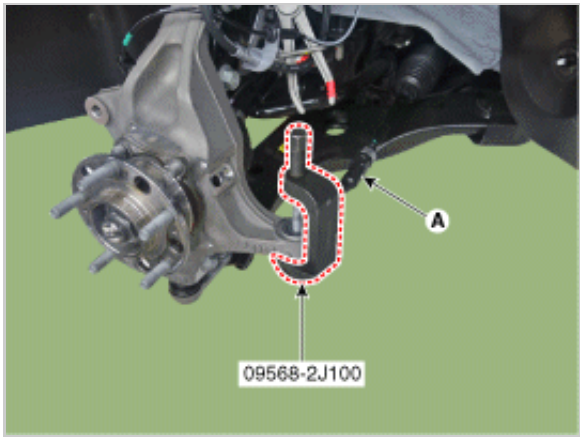
Tightening torque :
7.8 - 11.8 N.m (0.8 - 1.2 kgf.m, 5.5 - 8.7 lb-ft)



7. Remove the tie rod end ball joint.
   (1) Remove the split pin and nut (A).
   (2) Using SST(09568-2J100), separate the ball joint (B) from the knuckle.

Tightening torque :
78.5 - 88.3 N.m (8.0 - 9.0 kgf.m, 57.9 - 65.1 lb-ft)



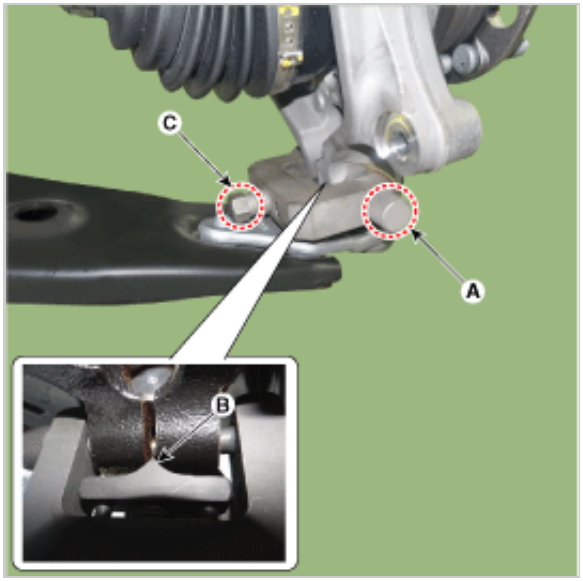


8. Remove the split pin and nut (A).

Tightening torque:
98.0 - 117.6 N.m (10.0 - 12.0 kgf.m, 72.3 - 86.7 lb-ft)

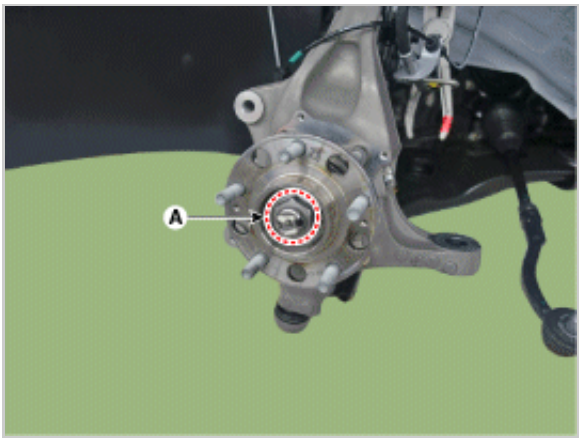
Click to see large image...

9. Remove the lower arm from the knuckle by using the SST (09568-4R100).
   (1) Install the support bolt (A) from lower arm bolt hole.
   (2) Install the support body (B) from front axle.
   (3) Tighten the bolt (C).



10. Loosen the driveshaft caulking nut (A).

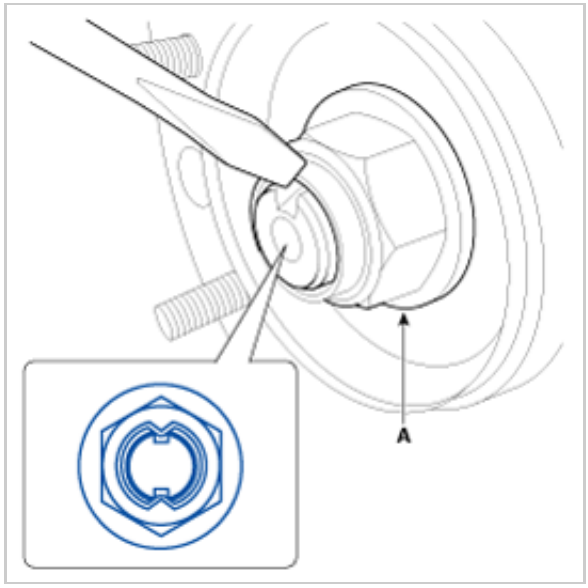
Tightening torque :
294.2 - 313.8 N.m (30.0 - 32.0 kgf.m, 217.0 - 231.5 lb-ft)



NOTICE

- Must not reuse the driveshaft lock nut (A).
- After installation driveshaft lock nut, stake the lock nut using a chisel and hammer as shown in the illustration below.

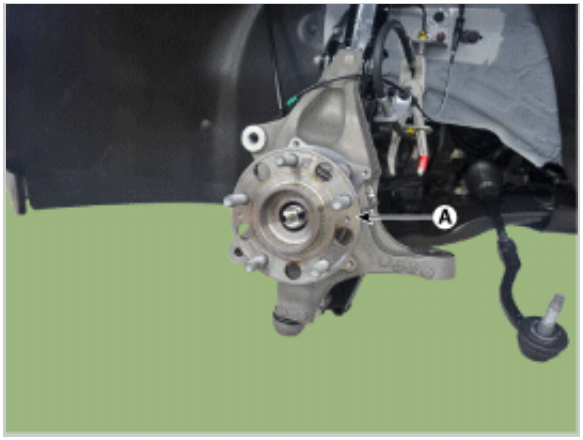
Caulking depth :1.5 mm (0.591 in.)



11. Remove the hub bearing (A) from the front knuckle.

Tightening torque :

117.7 - 137.3 N.m (12.0 - 14.0 kgf.m, 86.8 - 101.3 lb-ft)



12. Loosen the strut mounting bolts, nuts and then remove the knuckle assembly (A).

Tightening torque :

196.1- 215.7 N.m (20.0 - 22.0 kgf.m, 144.7 - 159.1 lb-ft)

Click to see large image...

- Inspection

1. Check the hub for cracks and the splines for wear.
2. Check the brake disc for scoring and damage.
3. Check the knuckle for cracks.
4. Check the bearing for cracks or damage.

- Installation

1. Install in the reverse order of removal.

2. Check the alignment.
   (Refer to Suspension System - "Alingment")

Driveshaft and axle

- Components

Click to see large image...

1. Front driveshaft (LH)
2. Inner shaft bearing bracket
3. Front driveshaft (RH)

- Removal

⚠ CAUTION

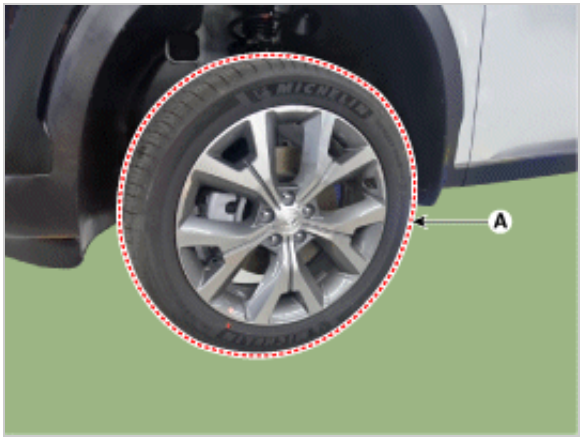
- Be careful not to damage the parts located under the vehicle (floor under cover, fuel filter, fuel tank and canister) when raising the vehicle using the lift.
  (Refer to General Information - "Lift and Support Points")

1. Loosen the wheel nuts slightly.
   Raise the vehicle, and make sure it is securely supported.
2. Remove the front wheel and tire (A) from the front hub.

Tightening torque :
107.9 - 127.5 N.m (11.0 - 13.0 kgf.m, 79.6 - 94.0 lb-ft)

NOTICE

- Be careful not to damage the hub bolts when removing the front wheel and tire (A).



3. Loosen the driveshaft caulking nut (A).

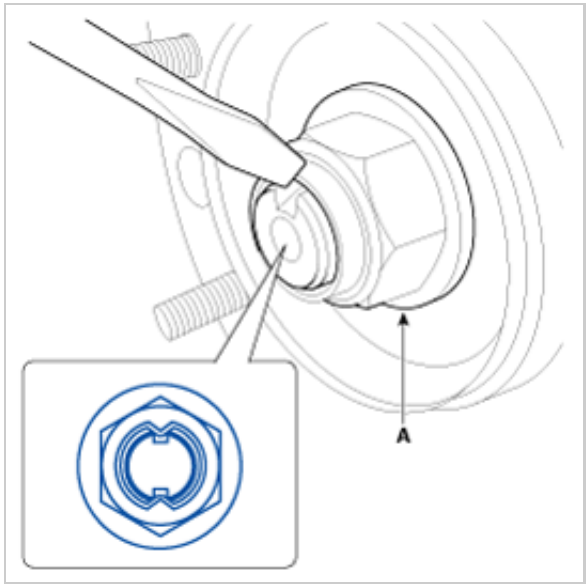
Tightening torque :
294.2 - 313.8 N.m (30.0 - 32.0 kgf.m, 217.0 - 231.5 lb-ft)

Click to see large image...

NOTICE

- Must not reuse the driveshaft lock nut (A).
- After installation driveshaft lock nut, stake the lock nut using a chisel and hammer as shown in the illustration below.

Caulking depth :1.5 mm (0.591 in.)



4. Remove the tie rod end ball joint.
   (1) Remove the split pin and nut (A).
   (2) Using SST(09568-2J100), separate the ball joint (B) from the knuckle.

Tightening torque :
78.5 - 88.3 N.m (8.0 - 9.0 kgf.m, 57.9 - 65.1 lb-ft)

Click to see large image...

5. Remove the split pin and nut (A).

Tightening torque:
98.0 - 117.6 N.m (10.0 - 12.0 kgf.m, 72.3 - 86.7 lb-ft)

Click to see large image...

6. Remove the lower arm from the knuckle by using the SST (09568-4R100).
   (1) Install the support bolt (A) from lower arm bolt hole.
   (2) Install the support body (B) from front axle.
   (3) Tighten the bolt (C).

Click to see large image...

7. Remove the driveshaft (A) from the front axle assembly (B).

Click to see large image...

8. Insert a pry bar (A) between the transaxle case and joint case, and separate the driver side driveshaft (B) from the transaxle case.

Click to see large image...

NOTICE

- Use a pry bar (A) being careful not to damage the transaxle and joint.
- Do not insert the pry bar (A) too deep, as this may cause damage to the oil seal.
- Do not pull the driveshaft by excessive force it may cause components inside the joint kit to dislodge resulting in a torn boot or a damaged bearing.
- Plug the hole of the transaxle case with the oil seal cap to prevent contamination.
- Support the driveshaft properly.
- Replace the retainer ring whenever the driveshaft is removed from the transaxle case.

9. Remove the inner shaft bracket mounting bolts (A).

Tightening torque :

107.9 - 127.5 N.m (11.0 - 13.0 kgf.m, 79.6 - 94.0 lb-ft)

Click to see large image...

10. Loosen the inner shaft mounting bolts (A) and then remove the passenger side driveshaft.

Tightening torque :

49.0 - 68.6 N.m (5.0 - 7.0 kgf.m, 36.2 - 50.6 lb-ft)

Click to see large image...

- Installation

1. Install in the reverse order of removal.
2. Check the alignment.
   (Refer to Suspension System - "Alingment")

- Components

[LH]

Click to see large image...

1. BJ assembly
2. BJ circlip
3. BJ boot band
4. BJ boot
5. Shaft
6. TJ boot band
7. TJ boot
8. Spider assembly
9. Retainer ring
10. TJ housing
11. Housing circlip

[RH]

Click to see large image...

1. BJ assembly
2. BJ circlip
3. BJ boot band
4. BJ boot
5. Shaft
6. TJ boot band
7. TJ boot
8. Spider assembly
9. Clip
10. TJ Case
11. Clip
12. Housing circlip

- Removal

⚠ CAUTION

- Special grease must be applied to the driveshaft joint. Do not substitute with another type of grease.
- The boot band should be replaced with a new one.

1. Remove the Front Driveshaft.
   (Refer to Driveshaft Assembly - "Front Driveshaft")
2. Remove the housing circlip (B) from the driveshaft spline (A).

Click to see large image...

3. Remove both boot bands from the TJ housing.

Click to see large image...

Click to see large image...

4. Remove the TJ housing (A).

Click to see large image...

⚠ CAUTION

- Make alignment marks on spider roller assembly (A), joint case (B), and shaft spline (C) to aid reassembly.

Click to see large image...

5. Remove the retainer ring (A) from the shaft.

Click to see large image...

6. Remove the spider assembly (B) from the driveshaft (A) using the special tool (09495-33000).

Click to see large image...

7. Clean the spider assembly.
8. Remove the TJ boot (A).

⚠ CAUTION

- For reusing the boot (A), wrap tape (B) around the driveshaft splines (C) to protect the boot (A).

Click to see large image...

- Inspection

1. Check the spider assembly for roller rotation, wear or corrosion.
2. Check the groove inside the joint case for wear or corrosion
3. Check the TJ boots for damage and deterioration.

- Installation

1. Wrap tape around the driveshaft spline (TJ) to prevent damage to the boot.

2. Install the TJ boot band and then TJ boot.
3. Using the alignment marks (D) made during disassembly as a guide, install the spider assembly (A) and snap ring (B) on the driveshaft splines (C).

Click to see large image...

Click to see large image...

4. Add specified grease to the joint boot as much as it was wiped away at inspection.
5. Install the both boot band.
6. To control the air in the TJ boot, keep the specified distance between the boot bands when they are tightened.

Engine	Distance (L) mm (in.)	
	LH side	RH side
Lambda 3.8 GDI	566.4 (22.2992)	578.0 (22.7559)

Click to see large image...

7. Using the SST(09495-3K000), secure the TJ boot bands.

Clearance (A) :2.0 mm (0.0787 in.) or less

Click to see large image...

Click to see large image...

8. Install the front driveshaft.
   (Refer to Driveshaft Assembly - “Front Driveshaft”)
9. Check the front alignment.
   (Refer to Suspension System - "Front Alignment")

- Components

[LH]

Click to see large image...

1. BJ assembly
2. BJ circlip
3. BJ boot band
4. BJ boot
5. Shaft
6. TJ boot band
7. TJ boot
8. Spider assembly
9. Retainer ring
10. TJ housing
11. Housing circlip

[RH]

Click to see large image...

1. BJ assembly
2. BJ circlip
3. BJ boot band
4. BJ boot
5. Shaft
6. TJ boot band
7. TJ boot
8. Spider assembly
9. Retainer ring
10. TJ Housing
11. Housing circlip

- Removal

1. Remove the front driveshaft.
   (Refer to Driveshaft Assembly - "Front Driveshaft")
2. Remove the TJ joint assembly.
   (Refer to Driveshaft Assembly - "TJ Joint")
3. Using a plier or flat-tipped (-) screwdriver, remove the BJ boot bands (A).

Click to see large image...

4. Remove the BJ boot.
5. Install in the reverse order of removal.

⚠ CAUTION

- Do not disassemble the BJ assembly.
- Special grease must be applied to the driveshaft joint. Do not substitute with another type of grease.
- The boot band should be replaced with a new one.

6. Check the front alignment.
   (Refer to Suspension System - "Front Alignment")

- Components

Click to see large image...

1. Rear brake disc
2. Rear hub assembly
3. Dust cover
4. Rear carrier assembly

- Removal

⚠ CAUTION

-

Be careful not to damage the parts located under the vehicle (floor under cover, fuel filter, fuel tank and canister) when raising the vehicle using the lift.
(Refer to General Information - "Lift and Support Points")

1. Loosen the wheel nuts slightly.
   Raise the vehicle, and make sure it is securely supported.
2. Remove the rear wheel and tire (A) from rear hub.

Tightening torque :
107.9 - 127.5 N.m (11.0 - 13.0 kgf.m, 79.6 - 94.0 lb-ft)

NOTICE

- Be careful not to damage the hub bolts when removing the rear wheel and tire (A).

Click to see large image...

3. Remove the rear brake caliper.
   (Refer to Brake System - "Rear Disc Brake")
4. Loosen the screw and then removing the rear brake disc (A).

Tightening torque :
4.9 - 5.8 N.m (0.5 - 0.6 kgf.m, 3.6 - 4.3 lb-ft)

Click to see large image...

5. Loosen the driveshaft caulking nut (A).

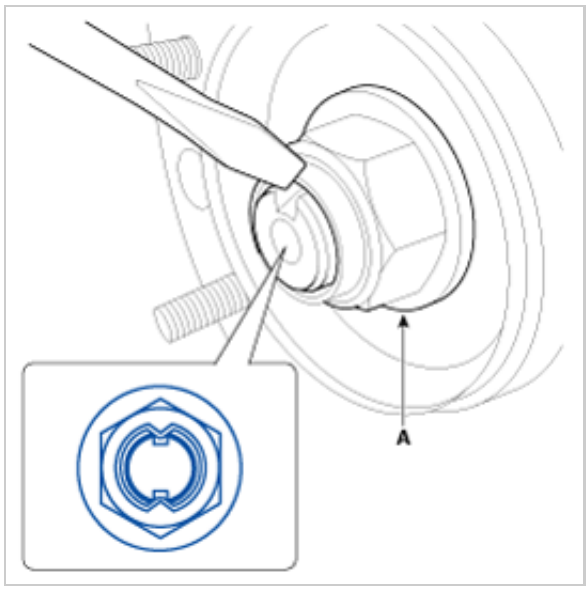
Tightening torque :
294.2 - 313.8 N.m (30.0 - 32.0 kgf.m, 217.0 - 231.5 lb-ft)

Click to see large image...

NOTICE

- Must not reuse the driveshaft lock nut (A).
- After installation driveshaft lock nut, stake the lock nut using a chisel and hammer as shown in the illustration below.

Caulking depth :1.5 mm (0.591 in.)



6. Loosen the bolts and then removing the rear hub assembly and duct cover (A).

Tightening torque :

88.3 - 107.9 N.m (9.0 - 11.0 kgf.m, 65.1 - 79.6 lb-ft)

Click to see large image...

7. Loosen the bolt and then removing the wheel speed sensor (A).

Tightening torque :
6.9 - 10.8 N.m (0.7 - 1.1 kgf.m, 5.1 - 7.9 lb-ft)

Click to see large image...

8. Loosen the nut and bolt and then removing the rear upper arm (A) from the axle.

Tightening torque :
98.1 - 117.7 N.m (10.0 - 12.0 kgf.m, 72.3 - 86.8 lb-ft)

Click to see large image...

9. Loosen the bolt and nut and then separate the rear assist arm (A) from the rear axle.

Tightening torque :
137.3 - 156.9 N.m (14.0 - 16.0 kgf.m, 101.3 - 115.7 lb-ft)

Click to see large image...

10. Loosen the mounting nut (A) and then separate the trailing arm from the rear carrier assembly.

Tightening torque :
98.1 - 117.7 N.m (10.0 - 12.0 kgf.m, 72.3 - 86.8 lb-ft)

Click to see large image...

11. Remove the rear axle carrier (A) after loosening the bolt and nut.

Tightening torque :
137.3 - 156.9 N.m (14.0 - 16.0 kgf.m, 101.3 - 115.7 lb-ft)

Click to see large image...

- Inspection

1. Check the hub for cracks and the splines for wear.
2. Check the rear axle carrier for cracks.
3. Replace only the sensor cap when the warning light turns on due to a defective sensor cap of the hub bearing.
   (Refer to Brake System - "Rear Wheel Speed Sensor")

- Installation

1. Install in the reverse order of removal.

2. Check the alignment.
   (Refer to Suspension System - "Alingment")

- Components

Click to see large image...

1. Dust cover
2. BJ joint
3. BJ boot
7. TJ boot small part band
8. TJ boot big part band
9. TJ boot

4. BJ boot big part band
5. BJ boot small part band
6. Shaft
10. Snap ring
11. Stopper ring
12. TJ assembly

- Removal

⚠ CAUTION

- Be careful not to damage the parts located under the vehicle (floor under cover, fuel filter, fuel tank and canister) when raising the vehicle using the lift.
  (Refer to General Information - "Lift and Support Points")

1. Loosen the wheel nuts slightly.
   Raise the vehicle, and make sure it is securely supported.
2. Remove the rear wheel and tire (A) from rear hub.

Tightening torque :
107.9 - 127.5 N.m (11.0 - 13.0 kgf.m, 79.6 - 94.0 lb-ft)

NOTICE

- Be careful not to damage the hub bolts when removing the rear wheel and tire (A).

Click to see large image...

3. Remove the rear brake caliper.
   (Refer to Brake System - "Rear Disc Brake")
4. Loosen the driveshaft caulking nut (A).

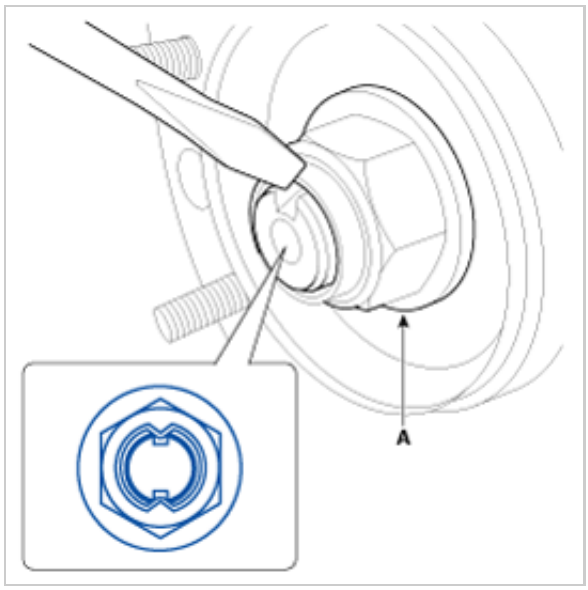
Tightening torque :
294.2 - 313.8 N.m (30.0 - 32.0 kgf.m, 217.0 - 231.5 lb-ft)

Click to see large image...

NOTICE

- Must not reuse the driveshaft lock nut (A).
- After installation driveshaft lock nut, stake the lock nut using a chisel and hammer as shown in the illustration below.

Caulking depth :1.5 mm (0.591 in.)



5. Loosen the nut and bolt and then removing the rear upper arm (A) from the axle.

Tightening torque :
98.1 - 117.7 N.m (10.0 - 12.0 kgf.m, 72.3 - 86.8 lb-ft)

Click to see large image...

6. Loosen the bolt and nut and then separate the rear assist arm (A) from the rear axle.

Tightening torque :
137.3 - 156.9 N.m (14.0 - 16.0 kgf.m, 101.3 - 115.7 lb-ft)

Click to see large image...

7. Loosen the bolt and nut and then separate the rear lower arm (A) from the rear axle.

Tightening torque :
137.3 - 156.9 N.m (14.0 - 16.0 kgf.m, 101.3 - 115.7 lb-ft)

Click to see large image...

8. Remove the driveshaft (B) from the rear axle assembly (A).

Click to see large image...

NOTICE

- Avoid damage to the boot and dust cover.

9. Remove the rear drive shaft from the differential by using the pry bar.

[LH]

Click to see large image...

[RH]

Click to see large image...

NOTICE

- Use a pry bar being careful not to damage the differential and joint.
- Do not insert the pry bar too deep, as this may cause damage to the oil seal.
- Do not pull the driveshaft by excessive force it may cause components inside the joint kit to dislodge resulting in a torn boot or a damaged bearing.
- Plug the hole of the differential case with the oil seal cap to prevent contamination.
- Support the driveshaft properly.
- Replace the retainer ring whenever the driveshaft is removed from the differential case.

- Inspection

1. Check the driveshaft boots for damage and deterioration.
2. Check the ball joint for wear and damage.
3. Check the splines for wear and damage.

Click to see large image...

4. Check the driveshaft for cracks and wears.
5. Check the TJ outer race, inner race, cage and balls for rust or damage.
6. Check for water, foreign matter, or rust in the BJ boot.

⚠ CAUTION

- When the BJ assembly (A) is to be reused, do not wipe away the grease.
- Check that there are no foreign substances in the grease. If necessary, clean the BJ assembly (A) and replace grease.

Click to see large image...

- Disassembly

⚠ CAUTION

- Do not disassemble the BJ assembly.

- Special grease must be applied to the driveshaft joint. Do not substitute with another type of grease.
- The boot band should be replaced with a new one.

1. Remove the TJ boot bands and pull the TJ boot from the TJ outer race.
   (1) Using a pliers or flat-tipped (-) screwdriver, remove the LH boot band and LH TJ boot band from the driveshaft.
   (2) Remove RH boot band and RH TJ boot band in the same way of LH removal procedure.

⚠ CAUTION
- Be careful not to damage the boot.

2. Pull out the driveshaft from the TJ outer race.
3. Remove the snap ring (A) and take out the inner race(B), cage(C) and balls(D) as an assembly.

Click to see large image...

4. Clean the inner race, cage and balls without disassembling.
5. Remove the BJ boot bands and pull out the TJ boot and BJ boot.

⚠ CAUTION

- If the boot (A) is to be reused, wrap tape(B) around the driveshaft splines(C) to protect the boot (A).

Click to see large image...

- Reassembly

1. Wrap tape around the driveshaft splines (TJ side) to prevent damage to the boots.
2. Apply grease to the driveshaft and install the boots.
3. Apply the specified grease to the inner race (A) and cage (B). Install the cage (B) so that it is offset on the race as shown.

⚠ CAUTION

- Use the grease included in the repair kit.

Click to see large image...

4. Apply the specified grease to the cage and fit the balls into the cage.
5. Position the chamfered side (A) as shown in the illustration. Install the inner race on the driveshaft(B), and then the snap ring.

Click to see large image...

6. Apply the specified grease to the outer race and install the BJ outer race onto the driveshaft.
7. Apply the specified grease into the TJ boot and install the boot with a clip.
8. Tighten the TJ boot bands.
9. Add the specified grease to the BJ as much as wiped away at inspection.
10. Install the boots.
11. Tighten the BJ boot bands.
12. To control the air in the TJ boot, keep the specified distance between the boot bands when they are tightened.

Distance (mm)	LH	RH
ALL	732.8mm (28.8504 in.)	748.8mm (29.4803 in.)

Click to see large image...

- Installation

1. Install in the reverse order of removal.
2. Check the alignment.

(Refer to Suspension System - "Alingment")

- Components

Click to see large image...

1. Front propeller shaft
2. Center bearing bracket
3. Rear propeller shaft

- Removal

⚠ CAUTION

- Be careful not to damage the parts located under the vehicle (floor under cover, fuel filter, fuel tank and canister) when raising the vehicle using the lift.
  (Refer to General Information - "Lift and Support Points")

1. After making a match mark on the flange yoke and transaxle companion, remove the propeller shaft mounting bolts (A).

Tightening torque :
49.0 - 68.6 N.m (5.0 - 7.0 kgf.m, 36.1 - 50.6 lb-ft)

⚠ CAUTION

- Do not reuse bolts.

Click to see large image...

2. Remove the center bearing bracket (A) mounting bolts (B-2ea).

Tightening torque :
49.0 - 68.6 N.m (5.0 - 7.0 kgf.m, 36.1 - 50.6 lb-ft)

Click to see large image...

3. After making a match mark on the flange yoke and transaxle companion, remove the propeller shaft mounting bolts (A).

Tightening torque :
49.0 - 68.6 N.m (5.0 - 7.0 kgf.m, 36.1 - 50.6 lb-ft)

⚠ CAUTION

- Do not reuse bolts.

Click to see large image...

4. Install in the reverse order of removal.

⚠ CAUTION

- When assembl ying propeller shaft, locate marks on flange yoke and T/M transfer flange to be nearly the same loacation.

- Components Location

Click to see large image...

1. Rear differential carrier assembly
2. Rear driveshaft assembly
3. Coupling Assembly
4. Propeller shaft assembly

- Components

Click to see large image...

1. Pinion lock nut
2. Pinion oil seal
3. Pinion front bearing
4. Pinion front bearing outer race
5. Differential oil seal
6. Differential case
7. Pinion rear bearing outer race
8. Pinion bearing spacer
9. Drive gear
10. Ring gear
11. Bearing cap
12. Spacer
13. Side bearing outer race
14. Gear carrier assembly
15. Differential rear cover.

- Removal

⚠ CAUTION

- Be careful not to damage the parts located under the vehicle (floor under cover, fuel filter, fuel tank and canister) when raising the vehicle using the lift.
  (Refer to General Information - "Lift and Support Points")

1. Loosen the wheel nuts slightly.
   Raise the vehicle, and make sure it is securely supported.
2. Remove the rear wheel and tire (A) from rear hub.

Tightening torque :
107.9 - 127.5 N.m (11.0 - 13.0 kgf.m, 79.6 - 94.0 lb-ft)

NOTICE

- Be careful not to damage the hub bolts when removing the rear wheel and tire (A).

Click to see large image...

3. Remove the coupling assembly.
   (Refer to 4 Wheel Drive (4WD) System - "Coupling Assembly")
4. Remove the rear driveshaft.
   (Refer to Rear Driveshaft Assembly - "Rear DriveShaft")
5. Remove rear differentia assembly (B) as loosen mounting (A-4ea) after install jack

Tightening torque:
68.6 - 88.3 N.m (7.0 - 9.0 kgf.m, 50.6 - 65.1 lb-ft)

Click to see large image...

Click to see large image...

- Disassembly

Rear differential carrier disassembly

1. Drain oil by removing the filler plug (A) and drain plug (B) before disassembling the rear differential carrier.

⚠ CAUTION

- Use a new drain plug and filler plug whenever installing.

Click to see large image...

Click to see large image...

2. Using the SST(09530-3T300), hold the differential assembly safely.

Information

- 09530-3T340

Click to see large image...

- 09530-3T350

Click to see large image...

- 09530-3T360

Click to see large image...

3. Remove the air breather plug (A).

Click to see large image...

4. Loosen the cover bolts and then remove the cover (A).

Click to see large image...

5. Loosen the bolts and then remove the bearing cap (A).

Click to see large image...

6. Remove the gear carrier assembly (A).

Click to see large image...

7. Mark the left and right side bearing race as below when removing the differential assembly to distinguish the sides.

Click to see large image...

8. Using the screwdriver, remove the left and right side oil seal (A).

⚠ CAUTION

- Use a new oil seal whenever installing.

[LH]

Click to see large image...

[RH]

Click to see large image...

Gear carrier assembly disassembly

1. Loosen the seal bolts and then remove the gear carrier (A) and ring gear (B).

Information

- Piant match marks on the gear carrier and the ring gear.

Click to see large image...

2. Using the SST (09452-2E000, 09430-4G400) remove the front and rear bearing (A).

Click to see large image...

Click to see large image...

3. Mark the left and right side bearing as below when removing the bearing to distinguish the sides.

Click to see large image...

Disassembly the pinion assembly

1. Using the SST(09530-3T340, 09530-3T350, 09530-3T310), fix the differential carrier assembly (A).

Click to see large image...

2. Fix the SST (09430-4G200) on the lock nut.
3. Fix the flange fix (A) on the SST (09430-4G200).

Click to see large image...

4. Insert the SST 09530-2W400) to the hole of the hexagon and then remove the lock nut (A).

Click to see large image...

5. Using the press, remove the drive pinion shaft (A).

Click to see large image...

6. Using the screwdriver, remove the pinion oil seal (A).

Click to see large image...

7. Remove the pinion front bearing (A).

Click to see large image...

8. Using a hammer and chisel, remove the pinion bearing outer race (A).

Click to see large image...

Click to see large image...

9. Using the SST (09452-2E000, 09430-4G100), press the drive pinion shaft and then remove the front bearing.

Click to see large image...

- Reassembly

Pinion drive gear height adjustment

Adjust the height of the drive pinion in the following order.

1. Below are the special tools to measure the pinion height

Click to see large image...

2. The special tool lock nut (A), pinion oil seal (B), pinion front bearing (C), inner bearing (D) and special tool support body (E) are mounted as follows.

Tightening torque :

88.3 - 137.3 Nm (9.0 - 14.0 kgf.m, 65.1 - 101.3 lb-ft)

Click to see large image...

3. Put the main body (A) on the Differential Case (B).

Click to see large image...

4. The bearing cap (B) is mounted on the main body (A).

   Tightening torque :

   54.0 - 63.7 Nm (5.5 - 6.5 kgf.m, 39.8 - 47.0 lb-ft)

5. Using the feeler gage, measure the gap between the main body (A) and bearing cap (B). And then select the inner bearing adjustment shim.

Click to see large image...

6. Install the selected inner bearing (A) adjustment shim.

Click to see large image...

Inner bearing adjustment shim

Part NO.	Thickness	inch
53040-3C138	1.38	0.054
53040-3C141	1.41	0.055
53040-3C144	1.44	0.057
53040-3C147	1.47	0.058
53040-3C150	1.5	0.059
53040-3C153	1.53	0.06

53040-3C156	1.56	0.061
53040-3C159	1.59	0.063
53040-3C162	1.62	0.064
53040-3C165	1.65	0.065
53040-3C168	1.68	0.066
53040-3C171	1.71	0.067
53040-3C174	1.74	0.068
53040-3C177	1.77	0.067

How to select the shim of correct thickness

- Select the shim that satisfies the specified total preload and hypoid gear backlash.

– Measure the pinion by rotating it at 60 rpm.
(Total preload = pinion preload + 2.0 - 7.0 kgf.m)

Hypoid gear backlash :0.07 - 0.15 mm

Click to see large image...

Rear differential carrier reassembly

1. Using the SST (09430-4G500, 09231-H1100), install the inner pinion bearing outer race (A).

Click to see large image...

2. Using the SST (09430-4G700, 09231-H1100), install the outer pinion bearing outer race.

Click to see large image...

3. Using the SST 09530-2W100, 09231-H1100), install the left and right side oil seal.

Click to see large image...

Click to see large image...

4. Using the round pipe (A), press in the pinion rear bearing (B).

Click to see large image...

5. Using the round pipe (A), press the front bearing (B).

Click to see large image...

⚠ CAUTION

- Must be use new spacer.
- Be careful not to deflect the spacer (A) when mounting it.

Normal mounting	Abnormal mounting

Click to see large image...	Click to see large image...

6. Install the front bearing (A).

Click to see large image...

7. Using the SST (09530-2W700, 09231-H1100), install the pinion oil seal.

Click to see large image...

8. Using the SST09430-4G200, 09530-2W400), intall the pinion lock nut (A).

Tightening torque :
215.7 - 490.3 N.m (22.0 - 50.0 kgf.m, 159.1 - 361.7 lb-ft)

Click to see large image...

Click to see large image...

9. tighten the lock nut.

Standard :

90.2 - 179.5 N.m (9.2 - 18.3 kgf.m, 66.5 - 132.4 lb-ft)

Information

- Maintain the constant speed rotation (60rpm).

Click to see large image...

Gear carrier assembly reassembly

1. Using the SST (09430-4G600), install the front/rear bearing (A).

Click to see large image...

Click to see large image...

2. Install the gear carrier and ring gear.

Tightening torque :

78.5 - 88.3 N.m (8.0 - 9.0 kgf.m, 57.9 - 65.1 lb-ft)

NOTICE

- When tightening the seal bolt, please do it diagonal.

Click to see large image...

3. Install the left and right side bearing outer race (A) to the gear carrier.

Click to see large image...

4. Fix the left and right side bearing outer race (A) with both hands and install it on the differential case.

Click to see large image...

5. Insert the left and right adjustment spacer between the differential side bearing and carrier. And than install the baearing cap (A) with mark.

Tightening torque :

44.1 - 53.9 N.m (4.5 - 5.5 kgf.m, 32.5 - 39.8 lb-ft)

Click to see large image...

Click to see large image...

6. Adjust the differential shim and confirm the standard of the backrash.

standard :

0.07 - 0.15 mm (0.002 - 0.006 inch)

Click to see large image...

Information

- Thickness of the differential shim needs to be adjusted if backrass is small.
- Reduce the thickness of the left side differential shim and enlarge the thickness of the right side differential shim as much as the reduced left side.

7. Measures the freeroad.

Standard Pinion freeroad :

0.25 - 0.84 N.m (2.5 - 8.5 kgf.cm, 0.18 - 0.62 lb-ft)

Click to see large image...

8. Coat sealant (A) on the rear cover surface.

Sealant :LT #5060 equivalent

Information

- Remove the remaining sealant before coating.
  Evenly coat the sealant 2-3 mm thick along the rear cover surface.

Click to see large image...

9. Install the differential rear cover (A).

Tightening torque :

39.2 - 49.0 N.m (4.0 - 5.0 kgf.cm, 28.9 - 36.2 lb-ft)

Click to see large image...

10. Install the pillar plug (A) and drain plug (B).

Pillar plug :

39.2 - 58.8 N.m (4.0 - 6.0 kgf.cm, 28.9 - 43.4 lb-ft)

Drain plug :

49.0 - 68.6 N.m (5.0 - 7.0 kgf.cm, 36.2 - 50.6 lb-ft)

Click to see large image...

Click to see large image...

11. Reassemble the rear differential assembly to the vehicle and inject oil.

Oil type :
Hypoid gear oil API GL-5, SAE 75W/85
(SK HCT-5 GEAR OIL 75W/85 EQUIVALENT)
Oil capacity (L) :0.70 ± 0.05

Click to see large image...

- Inspection

1. After clearing, check for damage parts or abrasion. Follow the below method, if any are noticed.

Item	Identify
Gear set (drive pinion gear & drive gear)	The gear set must be replaced with a new one if the gear tooth is damaged (crack/pits/dents).
Bearing	The bearing must be replaced with a new one if the bearing roller or race is damaged (crack/pits/dents).
Oil seal	The oil seal must be replaced with a new one if disassembled.

Differential carrier		The carrier must be replaced with a new one if the inside of the carrier bearing is damaged (crack/pits/dents) or a crack is found inside/ouside.
Companion flange		The pinion oil seal must be replaced with a new one if the contact surface is damaged (crack/pits/dents).
Open type	Diff gear set (Diff side gear & diff pinion gear)	The gear set must be replaced with a new one if the gear tooth or tooth surface is damaged (crack/pits/dents).
	Diff washer (Diff side gear washer & diff pinion gear washer)	The wahser must be replaced with a new one if the washer surface is damaged (crack/pits/dents).

2. Check the tooth contact pattern.

Tooth contact	Contact state	Solution	
Standard contact	Click to see large image...		
1. Heel contact	Click to see large image...	Increase the thickness of the pinion height adjusting shim, and position the drive pinion closer to the center of the drive gear. Also, for backlash adjustment, reposition the drive gear further from the drive pinion.	
2. Face contact			Click to see large image...

	Click to see large image...		
3. Toe contact	Click to see large image...	Decrease the thickness of the pinion height adjusting shim, and position the drive pinion further from the center of the drive gear. Also, for backlash adjustment, reposition the drive gear closer to the drive pinion.	Click to see large image...
4. Flank contact	Click to see large image...		

NOTICE

1) Tooth contact pattern is a method for judging the result of the adjustmentof drive pinion height and final drive gear backlash. The adjustment of drivepinion height and final drive gear backlash should be repeated until the toothcontact patterns are similar to the standard tooth contact pattern.
2) When you cannot obtain a correct pattern, the drive gear and drive pinionhave exceeded their limits. Both gears should be replaced as a set.